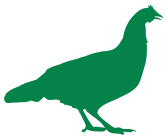
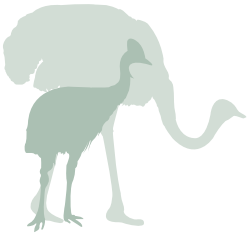


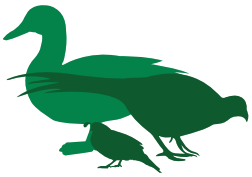
EGG-TYPE CHICKENS

MEAT-TYPE CHICKENS

TURKEYS



OSTRICHES, EMUS, RHEAS, AND CASSOWARIES



WATERFOWL, EXHIBITION AND GAME BIRDS

HUMAN HEALTH SIGNIFICANCE

Affected

Not Affected

Mycoplasma Synoviae

NPIP Classifications

- **U.S. M. Synoviae Clean:** *Available to all poultry except Ostrich, Emu, Rhea, Cassowary and Part 146 Commercial Egg Laying Flocks*
- **U.S. M. Synoviae Clean Started Poultry:** *Available to Multiplier Egg and Meat-type Chicken Flocks*
- **U.S. M. Synoviae Monitored:** *Available to Multiplier Meat-type Chicken Flocks*

Etiology

Mycoplasma synoviae causes acute to chronic synovitis and subclinical respiratory infections in chickens and turkeys. Mycoplasmas are bacteria that do not have a cell wall and are quite small in size.

Species Affected and Zoonotic Potential

This is a disease primarily of chickens and turkeys, but a variety of other fowl have been reported to be infected. *M. synoviae* has no public health significance.

Geographic Distribution

M. synoviae is found worldwide.

Transmission

The disease is primarily transmitted horizontally from bird to bird through aerosols or direct contact. The organism enters through the respiratory tract. Vertical transmission through eggs may also occur. Once infected, birds are infected for life and become carriers.

Clinical Signs

Chickens and turkeys may have subclinical upper respiratory infections. Air sacculitis may lead to condemnations at the processing plant.

Chickens: The first clinical signs of infectious synovitis in chickens are a pale comb, lameness, and retarded growth. As the disease progresses, the birds have ruffled feathers and the comb shrinks. Joint swelling and breast blisters are common. Hock joints and foot pads are the principal joints involved; however, in some birds all joints may be involved.

Turkeys exhibit the same type of signs of infectious synovitis, with lameness as the most prominent sign.

Prevention and Control

Because *M. synoviae* is egg-transmitted; the only effective means of control is through selecting birds from MS free flocks and testing for and eliminating carriers. Prevention consists of using MS free stock and maintenance of strict biosecurity measures to prevent infection of the flock. Antibiotics are helpful in treating infected flocks.

Diagnosis and Testing

Definitive diagnosis of *M. synoviae* is made through the isolation and identification of the organism. Serology accompanied with clinical signs and a history indicative of the may be helpful in reaching a presumptive diagnosis.

Testing Requirements

Testing requirements, approved tests and available classifications for *M. synoviae* are similar to those for *M. gallisepticum.*

U.S. M. Synoviae Clean classification (except those raising ratites) involves blood testing at 90 day intervals or egg yolk testing at 30 day intervals.

> Egg and Meat-type Multiplier Flocks may have their started poultry labeled as U.S. M. Synoviae Clean Started Poultry if their Multiplier and Primary flocks are classified as U.S. M. Synoviae Clean, and they meet specific sanitation and isolation rules.

U.S. M. Synoviae Monitored classification for meat-type chicken producers has less stringent testing requirements.

Approved Tests

A variety of approved tests (serum plate agglutination, tube agglutination, hemagglutination inhibition, microhemagglutination inhibition, enzyme-labeled immunosorbent assay, and polymerase chain reaction (PCR), or a combination of two or more of these) may be used by authorized laboratories when testing blood samples for *M. synoviae.*

Reference

- Saif, Y.M, et al., Diseases of Poultry, 12th ed. Blackwell Publishing, Ames, IA, 2008.

This information was developed by staff veterinarians at the CFSPH and approved by APHIS for use as training materials for the USDA APHIS National Veterinary Accreditation Program.

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